24903

Anisotropy of the longitudinal....

S/181/61/003/006/002/031
B102/B201

yielded the following results: 1) If the magnetite is cooled below the transition point, not only the value of the 1.th.N-E.E. changes, but to a high degree also the character of anisotropy. If the magnetic field is parallel to the [110] direction, a maximum change of the effect will be observed both above and below the transition region. 2) The 1.th. N-E.E. has, below the transition point, and if the magnetic field is applied in parallel to the [110] direction, a considerable value to which corresponds a diminution of the thermo-emf in the magnetic field by 14 %. 3) The irreversible part of the first anisotropy curve that may be observed with samples cooled down to liquid-nitrogen temperatures without magnetic field, is connected with the irreversible re-orientation of the orthorhombic c-axes of the various domains in the strong magnetic field. There are 2 figures and 10 references: 1 Soviet-bloc, and 9 non-Soviet-bloc. The three most important references to English-language publications read as follows: S.C.Abrahams, V.A.Calhoun. Acta Cryst.8, 257,1955; W.C.Hamilton.Phys.Rev.110, 1050, 1958; C.A.Domeniciali.Phys.Rev.78, 458, 1950.

Card 3/4
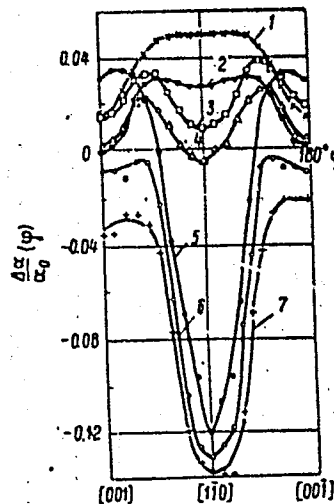
30

24905

Anisotropy of the longitudinal....

S/181/61/003/006/002/031
B102/B201

ASSOCIATION: Institut fiziki metallov AN SSSR Sverdlovsk (Institute
                 of Physics of Metals AS USSR Sverdlovsk)

SUBMITTED: December·12, 1960

Legend to Fig. 1: 1) 124°K,
                   2) 113,
                   3) 110,
                   4) 108,
                   5)   96,
                   6)   92,
                   7) ·91°K.

Card 4/4

DAVIDENKO, N.I.; FAKIDOV, I.G.

Anisotropy of the longitudinal thermomagnetic Nernst-Ettinghausen effect in magnetite in the region of low-temperature transformation. Fiz.tver.tela 3 no.10:3197-3206 O '61.   (MIRA 14:10)

1. Institut fiziki metallov AN SSSR, Sverdlovsk.
                         (Thermomagnetism)

S/181/62/004/012/006/052
B104/B102

AUTHOR: Davidenko, N.I.

TITLE: The anisotropy of the even effects in crystals with
            orthorhombic and rhombohedral lattices

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3396-3402

TEXT: The problem whether magnetite has orthorhombic or rhombohedral
structure below $120^\circ K$ owing to electron ordering is studied. For this
purpose, the anisotropy of the even effects ($\Delta R/R$, $\Delta\alpha/\alpha$ and $\Delta 1/1$) for
crystals with orthorhombic and rhombohedral structure is calculated by a
method proposed by N. S. Akulov (Ferromagnetizm – Ferromagnetism, GITTL,
M.-L., 1939). According to this, the relative change of an even effect
caused by a transition from the paramagnetic state into the ferromagnetic
saturated state is given in linear approximation by

$$\gamma = \sum_{i,k=1}^{3} a_{ik} g_i g_k,$$

where a_{ik} are the components of the anisotropy tensor and g_i, g_k are the

Card 1/4

The anisotropy of the even ...

direction cosines of the measurement.

$$\tau_{\varphi} = \sum_{i=1}^{3}\left\{\sum_{j=1}^{3}\left[a''_{ij}\left(v_i^2 - \tfrac{1}{3}\right) + a''_{jjjj}\left(v_j^2 - \tfrac{1}{3}\right)\right] + \sum_{j\neq i}^{3} a''_{jjii}v_j^2\right\}v_i^2 +$$

$$+ \sum_{i\neq h\neq j}^{3}\left[a''_{iih}v_i v_h + a''_{ihjj}v_i v_h v_j^2 + a''_{iihh}v_i v_h\right]v_i v_h.$$

(9)

is obtained for an orthorhombic lattice, and

$$\tau_{\varphi m} = a_{11}^{21}[-2v_1 v_2 v_3 + (v_1^2 + v_2^2)v_1]v_3 + a_{21}^{21}(v_1 v_2 + v_2 v_3)v_2 v_3 +$$

$$+ a_{111}^{31} -2v_1 v_2 v_3 + (v_1^2 - v_2^2)v_1](v_1^2 + v_2^2)v_3 + a_{311}^{31}[-2v_1 v_2 v_3 +$$

$$+ (v_1^2 - v_2^2)v_1]v_1^2 v_3 + a_{113}^{31}(v_1^2 + v_2^2)(v_1 v_2 + v_2 v_3)v_2 v_3 + a_{113}^{31}(v_1 v_2 + v_2 v_3)v_1^2 v_3 +$$

$$+ a_{21}^{11}[-2v_2 v_3 v_3 + v_1(v_1^2 - v_2^2)]v_2 + a_{11}^{11}(v_1^2 + v_2^2)(v_1^2 + v_2^2) + a_{111}^{11} \times$$

$$\times [(v_1^2 - v_2^2)(v_1^2 - v_2^2) + 4v_1 v_2 v_1 v_2](v_1^2 + v_2^2) + a_{311}^{11}[3v_1 v_2 v_1 v_2 +$$

(12)

$$+ \left(v_1^2 - \tfrac{1}{2}v_2^2\right)v_1^2 + \left(-\tfrac{1}{2}v_1^2 + v_2^2\right)v_2^2]v_2^2 + a_{113}^{11}v_1 v_2(v_1^2 - 3v_2^2)(v_1^2 + v_2^2) +$$

$$+ a_{311}^{11}[-2v_2 v_3 v_3 + v_1(v_1^2 - v_2^2)]v_2^2 + [a_{11}^{32}(v_1^2 + v_2^2) + a_{11}^{32}(v_2^2 - 1) +$$

$$+ a_{311}^{32}(v_1^2 + v_2^2)v_2^2 + a_{112}^{32}(v_1^2 - 1)]v_2^2.$$

(12)

Card 2/4

for a rhombohedral one. In both expressions the number of the constants
a^{ik} can be reduced by means of the relation $s_1^2 + s_2^2 + s_3^2 = 1$. It follows
from (9) and (12) that the anisotropy curve of the longitudinal thermo-
magnetic Nernst-Ettingshausen effect has different periodicity according
as below 120°K the structure is orthorhombic or rhombohedral. For the
Nernst-Ettingshausen effect, Eqs.

$$\left(\frac{\Delta a}{a}\right)_{\mathrm{tr}} (\varphi) = b_0 + b_1 \cos 2\varphi + b_2 \cos 4\varphi, \qquad (15)$$

$$\left(\frac{\Delta a}{a}\right)_{\mathrm{ren.}} (\varphi) = C, \qquad (16)$$

are obtained from (9) and (12). b_0, b_1, b_2 and C are constants. Compari-
son with the experimental result (Fig.) shows that Eq.(15) correctly
describes the longitudinal thermomagnetic Nernst-Ettingshausen effect;
magnetite has, therefore, orthorhombic structure below 120°K. The
Nernst-Ettingshausen effect was measured at 92°K on a cylindrical

Card 3/4

The anisotropy of the even ...

S/181/62/004/012/006/052
B104/B102

specimen having its axis parallel to $[111]$ in a field of 20.4 koe perpendicular to the C_3 axis (20 400 oersted). There is 1 figure.

ASSOCIATION: Institut fiziki metallov AN SSSR, Sverdlovsk (Institute of the Physics of Metals AS USSR, Sverdlovsk)

SUBMITTED: February 28, 1962 (initially)
June 28, 1962 (after revision)
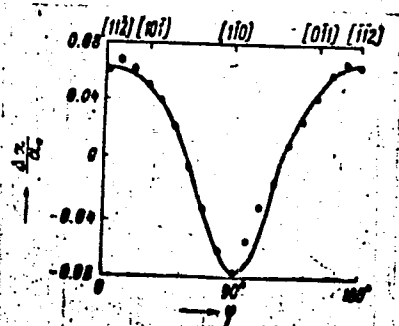
Card 4/4

S/181/63/005/003/010/046
B102/B180

AUTHORS: Davidenko, N. I., and Fakidov, I. G.

TITLE: "Anomaly" of the longitudinal thermomagnetic Nernst-
             Ettingshausen effect

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, 769-772

TEXT: The authors review a number of Soviet papers, including their
own (FTT 3, 1650 and 3198, 1960), dealing with thermomagnetic Nernst-
Ettingshausen effects and their anomalies, i. e. deviations from the
law $_i = -2/'_1$. Some new experiments are also described in brief. They
were carried out at $124^\circ K$ with artificial polycrystalline magnetite
samples ($1.5 \cdot 1.5 \cdot 10$ mm^3) in longitudinal and transverse fields of up to
15 koe. Both effects are found to be positive. There is 1 figure.

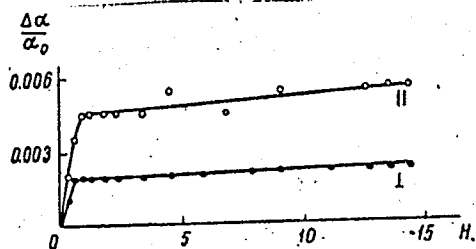ASSOCIATION: Institut fiziki metallov AN SSSR, Sverdlovsk (Institute
             of the Physics of Metals AS USSR, Sverdlovsk)

SUBMITTED: October 1, 1962
Card 1/2

"Anomaly" of the longitudinal ...

S/181/63/005/003/010/046
B102/B180

Fig. 1

$$\left(\frac{\Delta a}{a_0}\right)^{\text{эко.}}_{\parallel} = 0.0045,$$

$$\left(\frac{\Delta a}{a_0}\right)^{\text{эко.}}_{\perp} = 0.0020.$$

Card 2/2

DAVIDENKO, N. K.

USSR/Chemistry - Physical chemistry

Card   :   1/1   Pub. 116 - 1/20

Authors   :   Fialkov, Ya. A., and Davidenko, N. K.

Title   :   Physico-chemical analysis of two-salt systems in aqueous solutions. Part
                    1. - Electrical conductivity of K, Na and Mg sulfate systems.

Periodical   :   Ukr. khim. zhur. 20, Ed. 4, 343 - 349, 1954

Abstract   :   Data are presented on the application of electrical conductivity measure-
                    ments as a method for physico-chemical analysis of salt systems in aque-
                    ous solutions. The specific electrical conductivity of Na_2SO_4-K_2SO_4-H_2O,
                    $MgSO_4$-K_2SO_4-H_2O and $MgSO_4$-Na_2SO_4-H_2O systems was determined at a constant
                    summary concentration and variable component ratio, the results of which
                    are shown in tables. Twenty five references: 3-Ukrainian; 9-USSR; 1-
                    Rumanian; 6-USA; and 6-German (1890-1950). Graphs.

Institution   :   Acad. of Sc. Ukr-SSR, Institute of Gen. and Inorgan. Chemistry.

Submitted   :   May 11, 1953

DAVIDENKO, N. K.

USSR/Chemistry - Physical chemistry

Card   :   1/1 Pub. 116 - 2/20

Authors   :   Davidenko, N. K.

Title   :   Physico-chemical analysis of two-salt systems in aqueous solutions. Part 2. - Electrical conductivity of systems consisting of two halides in an aqueous solution.

Periodical :   Ukr. khim. zhur. 20, Ed. 4, 350 - 356, 1954

Abstract   :   The electrical conductivity of numerous aqueous halide solutions: CdJ_2-KJ - H_2O, $HgCl_2$ - NaCl - H_2O, $MgCl_2$ - KCl - H_2O, $MgCl_2$ - NaCl - H_2O, was measured. The presence of binary salts in the solution was revealed by the deviations of the electrical conductivity from the additive properties of the salts. The salt systems, in which negative deviations of electr. conductivity from the additiveness were observed, are described. Results, obtained by measuring the specific electr. conductivity of the salt systems, are given in tables. Fifteen references: 3-USA; 4-German; 3-USSR; and 5-French (1919-1934). Graphs.

Institution :   Acad. of Sc. Ukr-SSR, Institute of Gen. and Inorgan. Chemistry

Submitted   :   May 15, 1953

FIALKOV, Ya.A.; DAVIDENKO, N.K.

Physicochemical analysis of systems of two salts in aqueous solutions. Part 3. Cryoscopic measurements. Ukr.khim.zhur. 20 no. 5:
470-477 '54.   (MLRA 8:1)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk USSR.
   (Salts) (Cryoscopy)

Davidenko, N. K.

USSR/ Chemistry - Chemical technology

Card   1/1   Pub. 116 - 19/29

Authors   : Davidenko, N. K.

Title   : Derivation of magnesium sulfate from Sivash brine

Periodical : Ukr. khim. zhur. 21/6, 773-777, Dec 1955

Abstract   : The problem of separating magnesium sulfate from Sivash brine was investiga-
              ted. Concentrated natural Sivash brine was chilled to temperatures of plus
              5°, 0° and minus 10° to 15°. The composition of the solid phases and the
              yield of magnesium sulfate were established. A new method of separating
              magnesium sulfate from Sivash brines was introduced. Ten USSR references
              (1928-1953). Tables; graph.

Institution : Acad. of Sc., Ukr. SSR, Inst. of Gen. and Inorgan. Chem.

Submitted   : May 24, 1955

DAVIDENKO, N. K.

AUTHORS: Fialkov, Ya. A. and Davidenko, N.K.   564

TITLE: Complex Compounds of Gallium with Trihydroxyglutaric Acid.
(O Kompleksnykh Soedineniyakh Galliya s Trioksiglutarovoy
Kislotoy).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry,
Vol.II, No.2, pp.307-316. (U.S.S.R.) 1912

ABSTRACT: Although information is available on the salts of trihydroxy-
glutaric acid, the only complex compounds which have been des-
cribed are the salts with trivalent iron and with copper. In
the present investigation 99.87% pure gallium was converted
into the nitrate and used for the preparation of complexes with
trihydroxyglutaric acid, the reactions being followed by con-
ductometric and potentiometric titration, electrical conduct-
ivity measurement and hydrogen-ion concentration determina-
tions by the isomolar series method; a preparative method and
subsequent investigation of the complex synthesised were also
used.

The systems studied were: $C_5H_8O_7$- $Ga(NO_3)_3$ - H_2O,
$Ga(NO_3)_3$ - $C_5H_6O_7Na_2$ - H_2O, $Ga(NO_3)_3$ - $C_5H_7O_7Na$ - H_2O.

The conductometric and potentiometric titration of gallium
nitrate was carried out both with trihydroxyglutaric acid and
its disodium salt. Potentiometric titrations were also carried
out of mixtures of gallium nitrate with trihydroxyglutaric acid
with alkali.

DAVIDENKO,N.K.

Report of the meeting on the use of tracer atoms in the chemistry of complex compounds. Zhur.fiz.khim. 30 no.9:2127-2129 S '56.
(MIRA 9:12)

(Radioactive tracers--Congresses) (Compounds, Complex--Congresses)

DAVIDENKO, N.K.

Scientific session of the seminar of the Institute of General
and Inorganic Chemistry of the Academy of Sciences of the U.S.S.R. on
the chemistry of complex compounds of rare earths. Zhur. neorg.
khim. 2 10:2492-2494 O '57.   (MIRA 11:3)
          (Earths, Rare)

FIALKOV, Ya.A.; DAVIDENKO, N.K.

Lanthanum complex compounds with trioxyglutaric acid. Zhur.
neorg. khim. 2 no.11:2562-2569 N '57.   (MIRA 11:3)
        (Lanthanum compounds) (Glutaric acid)

AUTHOR: Davidenko, N. K.   SOV/78-3-8-47/48

TITLE: Third Conference of the Ukrainian Republic on Inorganic
               Chemistry (Tret'ye ukrainskoye respublikanskoye soveshchaniye
               po neorganicheskoy khimii)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1986-
               1989 (USSR)

ABSTRACT: From January 28 to February 1, 1958 the Third Conference of the
               Ukrainian Republic on Inorganic Chemistry in collaboration with
               the Departments of Chemical and Geological Sciences of the AS
               Ukraine SSR and the Institute of General and Inorganic Chemistry
               of the AS Ukraine SSR took place at Kiyev.
               About 200 collaborators of the scientific institutes as well as
               pedagogues and representatives of the chemical industry from
               Kiyev, Khar'kov, L'vov, Dnepropetrovsk, Stalino, Odessa and
               other towns of the Ukraine as well as from Moscow and Leningrad
               attended the conference.
               The work of the conference was carried out within two sections
               of the plenary meetings: 1) The structure of inorganic compounds
Card 1/2   and the chemistry of rare elements. 2) The investigation of the

Third Conference of the Ukrainian Republic on Inorganic Chemistry   SOV/78-3-8-47/48

minerals. 42 lectures were held at this conference, 18 of them
at the plenary meetings. The conference decided upon intensifying
the research of inorganic compounds especially within the field
of non-ferrous and rare elements, as well as in the chemistry
of complex compounds; the process of complex formation and the
equilibrium of solutions should also be intensified.

Card 2/2

AUTHOR: Davidenko, N. K.   79-28-4-2/60

TITLE: Dissociation Constants of the Trioxyglutaric Acid
               (Konstanty dissotsiatsii trioksiglutarovoy kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4,
               pp. 859-862 (USSR)

ABSTRACT: The physico-chemical properties of the hydroxycarboxylic
               acids and their compounds are only little investigated.
               From this series the tartaric acid is investigated best.
               The physico-chemical properties of the trioxyglutaric
               acid which differs from tartaric acid by the presence

               of another $H-C-OH$ group, are hardly known. There exists
               a number of investigations indicating the possibility
               of production of cheap trioxyglutaric acid and its appli-
               cation in some cases instead of tartaric acid and citric
               acid. In the present work the author wanted to determine
               the first and second constant of the acid dissociation
               of the optically inactive xylotrioxyglutaric acid accor-

Card 1/3   ding to the values of potentiometric titration. The first

Dissociation Constants of the Trioxyglutaric Acid   79-28-4-2/60

constant of the acid dissociation of the xylotrioxy-
glutaric acid was computed by Rot (Ref. 1) according
to the electric conductivity of its solutions. At 25°

it was found $6.6 \cdot 10^{-4}$. No data on the second constant
exist in technical literature. The trioxyglutaric acid
used by the author for the production of the solutions
was a commercial product from the production of the
test and industrial plant of the Hydrolysis Plant at
Fergansk which had been purified before. Before purifi-
cation it contained 99% of the trioxyglutaric acid. pH
measurings were carried out with the pH-meter "Orion"
of the 2512 type with a gas electrode. The saturated
calomel electrode served as comparison electrode. The
solutions were processed thermostatically so that tempe-

rature fluctuations remained within the range of $\pm 0,1^\circ$.
Computation results for 5 pairs of points are given on
the table. In fact, computations for a greater number of
titration curves were made. The deviations from the average
value are in the same range as given in the table. Conclu-
sion: Dissociation constants of the xylotrioxyglutaric

Card 2/3   acid were computed according to the values of potentio-

Dissociation Constants of the Trioxyglutaric Acid   79-28-4-2/60

metric titration. They proved to be $K_1 = 8.4 \cdot 10^{-4}$, $K_2 = 6.1 \cdot 10^{-5}$.

There are 1 figure, 1 table and 6 references, 1 of which is Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute for General and Inorganic Chemistry, AS Ukrainian SSR)

SUBMITTED: February 13, 1957

Card 3/3

5(2)

AUTHOR: Davidenko, N.K.

05858
SOV/78-4-11-11/50

TITLE: The Complex Compounds of Trioxyglutaric Acid With Cerium,
           Neodymium and Samarium

ABSTRACT: The reaction of trioxyglutaric acid with the lanthanides
           Ce, Nd and Sm, denoted here Ln, was investigated by
           potentiometric titration and measurement of the pH-value as
           well as by a study of the behavior of the metal in electrolysis.
           The author made use of the pH-meter "Orion" of the 2512 type
           with a glass electrode. Figures 1-3 show the result of
           titration of the mixture $LnCl_3$ - trioxyglutaric acid with

           NaOH: ordinate - pH, abscissa $a = \dfrac{NaOH}{Ln^{3+}}$. Three kinds of

           complex compounds were found: the cation complex $LnC_5H_6O_7^+$

           in acid medium, the neutral compound $LnC_5H_5O_7$ in neutral

           medium, and the anion complex $LnC_5H_4O_7^-$ in alkaline medium.

Card 1/2

05858

The Complex Compounds of Trioxyglutaric Acid With
Cerium, Neodymium and Samarium

SOV/78-4-11-11/50

Electrolysis has confirmed the formation of these complexes
since neodymium migrated to the cathode in alkaline medium
and to the anode in acid medium. The author describes the
pure preparation of the complexes by deposition with methanol.
Analytical data on the resultant compounds $Ce_2(C_5H_6O_7)_3$,
$Nd_2(C_5H_6O_7)_3$, $CeC_5H_7O_8$, $NdC_5H_7O_8$ and $NaNdC_5H_6O_8$ are listed in
table 1. The following constitutional formulas are suggested:

$$
\begin{array}{l}
COO \searrow \\
CHO \longrightarrow Nd-H_2O \\
CHO \nearrow \\
CHOH \\
COONa
\end{array}
\quad \text{and} \quad
\begin{array}{l}
COO \searrow \\
CHOH \searrow \\
CHO \longrightarrow Ln-H_2O. \\
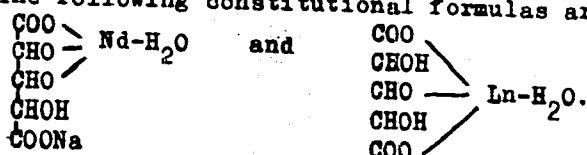CHOH \nearrow \\
COO \nearrow
\end{array}
$$

Table 2 contains the calculated instability constants of the
cation complex $LnC_5H_6O_7^+$ for La, Ce, Nd and Sm. They are equal
to $1 \pm 0.6 \cdot 10^{-4}$ for the four metals. There are 3 figures, 2
tables, and 4 references, 2 of which are Soviet.

SUBMITTED: August 15, 1958
Card 2/2

5.2620

5 (2)

68107

SOV/78-5-1-9/45

AUTHOR: Davidenko, N. K.

TITLE: Complex Compounds of Indium With Trioxyglutaric Acid

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 48-55 (USSR)

ABSTRACT: The reaction of $InCl_3$ with trioxyglutaric acid was investigated
              by potentiometry (Fig 5), by measuring the pH and the electrical
              conductivity (Figs 1-4, 7), by transport of ions upon electro-
              lysis, and by polarography (Fig 6, Tables 1,2). On account of
              the experimental data the author draws the following conclusions:
              The complex cation $InC_5H_6O_7^+$ is formed in acid solution, the neu-
              tral complex $InC_5H_5O_7$ in weakly acid or neutral solution, and
              the complex anion $InC_5H_4O_7^-$ in alkaline solution. The cation
              $In_2C_5H_4O_7^{2+}$ is formed only with an excess of $InCl_3$ and at a high
              pH. The compounds $InC_5H_5O_7 \cdot 3H_2O$ and $NaInC_5H_4O_7 \cdot 3H_2O$ could be
              separated from the solution (Table 3), whereas the preparation

Card 1/2

Complex Compounds of Indium With Trioxyglutaric Acid $SOV/78-5-1-9/45$

68107

of compounds in the ratio $InCl_3 : C_5H_8O_7 \geqslant 2$ and of compounds with the bivalent anion $InC_5H_3O_7^{2-}$, which is present in strongly alkaline solution, was not successful. There are 7 figures, 2 tables and 5 Soviet references.

SUBMITTED: September 8, 1958

Card 2/2

L 13360-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD/ESD-3   RM/JD

ACCESSION NR: AT3002325   S/2928/62/000/003/0097/0117

58

AUTHOR: Davidenko, N. K.

57

TITLE: Complex compounds of rare earth elements with hydroxycarbonic acids of the aliphatic series

SOURCE: ANUkrRSR. Instytut zahal'noyi ti neorhanichnoyi khimiyi. Raboty po khimi rastvorov i kompleksnykh soyedineniy, no. 3, 1962. Khimiya rastvorov redkozemel'nykh elementov. 97-117.

TOPIC TAGS: rare earth element, ion exchange, glycolic acid, lactic acid, oxybutyric acid, malic acid, tartaric acid, gluconic acid, mucic acid, saccharic acid, citric acid

ABSTRACT: Rare-earth elements (REE) must be complexed to be separated or purified by ion-exchange methods since the resins are not selective of the REE themselves. The complex-forming properties of the series of aliphatic hydroxycarbonic acids with increasing chain length were investigated. The report is divided into sections describing compounds formed with the following acids: glycolic, lactic, oxybutyric, malic, tartaric, trihydroxyglutonic, gluconic, tetrahydroxyadipic (music and saccharic) and citric. Systematic data for REE-hydroxycarbonic acid

Card 1/2

1. 13360-63

ACCESSION NR: AT3002325

complexes is not complete; however, most of the stable complexes are formed in acid and neutral media, although stable soluble complex compounds at higher pH are known. The mechanism for increasing the mobility of the hydroxy H, thus increasing the stability of heavy metal complexes with hydroxyacids at higher pH values is presented in detail. Orig. art. has: 3 tables, 6 figures, 16 formulas.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 25May63   ENCL: 00

SUB CODE: CH, EL   NO REF SOV: 028   OTHER: 049

Card   2/2

VLADIMIROVA, V. M.; DAVIDOVICH, N. K.

Determination of thallium in metallic zinc and cadmium with rhodamine 6G. Metod. anal. khim.reak. i prepar.no. 4:116-119 '62.   (MIRA 17:5)

1. Gosudarstvennyy institut redkikh metallov (GIREDMET)

DAVIDENKO, N.K.

Complex compounds of lanthanum and ytterbium with malic acid.
Zhur.neorg.khim. 7 no.12:2709-2715 D '62.   (MIRA 16:2)
        (Lanthanum compounds)   (Ytterbium compounds)
                        (Malic acid)

37624
S/073/62/028/003/001/004
B110/B101

5.2/00

AUTHORS: Aksel'rud, N. V., Davidenko, N. K.

TITLE: Separation of rare-earth elements with cadmium
            hydroxy chloride

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 3, 1962, 301-305

TEXT: Attempts were made to separate rare earths (RE) with cadmium
hydroxy chloride in the presence of sodium chloride. The distribution of
lanthanum, praseodymium, and neodymium between solution and precipitate
was determined after precipitation of their basic salts or hydroxides
from solutions containing 2, 3, and 4 g·ion of $Cl/liter$ by shaking 2 ml
of cadmium oxychloride for 2 hrs with 5 ml of $5 \cdot 10^{-2}$ molar solution of RE
chloride, then centrifuging, filtering, and determining the RE concentra-
tion colorimetrically as aluminonate. Results: The equilibrium ratio
Ln_{prec}/Ln_{dis} of the same element increases with increasing concentration
of Cl ions. With equal Cl concentration, the distribution coefficients of
the individual RE elements differ significantly. For La-Pr with

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Separation of rare-earth elements ...

S/073/62/028/003/001/004
B110/B101

2, 3, and 4 g·ion of Cl/liter these are 12, 15, and 11. For La-Nd with
2, 3, and 4 g·ion of Cl/liter they are 16, 29, and 11. For Pr-Nd with
2, 3, and 4 g·ion of Cl/liter they are 1.3, 1.9, and 0.9. Further, the
separation of lanthanum - praseodymium, lanthanum - neodymium, and
praseodymium - neodymium was studied in a ten-step countercurrent process.
5 ml of RE - NaCl solution (total Cl concentration 3 g·ion/liter) was
added to 2 ml of cadmium hydroxy chloride, centrifuged, and the solution
filled into the following test tube. Thus, 10 precipitates and 10 solutions
were obtained and studied as regards RE. The precipitates were dissolved
in dilute hot HNO_3 and the RE separated from cadmium by a large NH_3 excess
(pH ~ 9); the hydroxides were annealed to oxides and these were dissolved
in dilute HNO_3. The contents in praseodymium and neodymium were determined
spectrophotometrically and the content in lanthanum calculated from the
difference. Results: (1) Complete precipitation of neodymium is already
effected in the first four steps. (2) Under these conditions the
precipitation of lanthanum is incomplete as some of it is still in
solution. (3) The precipitates contain 87% of the initial amounts of RE
elements, and the solutions 13%. (4) 70% of the RE are contained in the

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Separation of rare-earth elements ...   S/073/62/028/003/001/004
                                          B110/B101

first four precipitates. (5) The Nd_2O_3 : La_2O_3 ratio is: 1.27 in the
initial solution; 4.14 in precipitate I (PI); 4.7 in precipitate II (PII);
4.1 in precipitate III (PIII); and 1.08 in precipitate IV (PIV). The
further precipitates and solutions contain only La. (6) Lanthanum and
praseodymium are precipitated at a rate of 85% in the first four steps
($\sim$ 70% La). The Pr_6O_{11} : La_2O_3 ratio is 0.96 in the initial solution;
2.0 in PI; 1.07 in PII; 1.21 in PIII; and 0.42 in PIV. (7) When
praseodymium is separated from neodymium, 93.5% of the total amount is
precipitated in the first 5 steps. The Nd_2O_3 : Pr_6O_{11} ratio is:
1.33 in the initial solution; 1.45 in PI; 1.57 in PII; 1.43 in PIII;
1.22 in PIV; and 1.17 in PV. There are 3 tables.

Card 3/3

DAVIDENKO, N.K.

Complex compounds of rare earth elements with fatty hydroxy-carboxylic acids. Rab. po khim. rastv. i kompl. soed. no.3: 97-117 '62.
(MIRA 16:8)

YATSIMIRSKIY, K. B.; DAVIDENKO, N. K.; KOSTROMINA, N. A.; TERNOVAYA, T. V.

"Chemical structure determination of lantanides' coordination compounds on the basis of their absorption spectra."

report presented at the 8th Intl Conf on Coordination Chemistry, Vienna, 7-11 Sep 64.

ACCESSION NR: AP4041578

S/0078/64/009/007/1584/1587

AUTHOR: Davidenko, N. K.

TITLE: The stability of complex compounds of the rare earth elements of the cerium group with malic acid.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 7, 1964, 1584-1587

TOPIC TAGS: rare earth element complex, stability, ionization constant, malic acid containing complex, pH potentiomentric determination, stability constant, lanthanide malate complex

ABSTRACT: The complex fromation in systems of the cations of rare earth elements of the cerium group-malic acid at pH 2-3 was studied by the pH-potentiometric method. The complexes formed have 1:1 and 1:2 compositions with the following equilibria occurring in the solutions (where $H_2Mal = H_2C_4H_4O_5$):

$$Ln^{3+} + Mal^{2-} \rightleftarrows LnMal^+ \qquad (1)$$
$$LnMal^+ + Mal^{2-} \rightleftarrows LnMal_2^- \qquad (2)$$
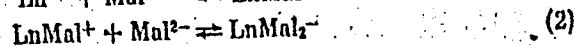
Card 1/2

ACCESSION NR: AP4041578

The stability constants for the malate complexes of the rare earth elements of the cerium groups were calculated. At 25C and an ionic strength of about 2, $\beta_1 =$ $[LnMal^+] / [Ln^{3+}] [Mal^{2-}] = (x10^4)$, for La (1.1 ± 0.1), Ce (1.3 ± 0.2), Pr (1.9 ± 0.2), Nd (2.8 ± 0.3), Sm (2.6 ± 0.2), Eu (2.2 ± 0.2), and Gd (1.9 ± 0.3). The tendency for the formation of LnMal complexes showed a maximum with Nd-Sm; the tendency for the formation of LnMal$_2$ complexes increased with increasing atomic number of the rare earth element. Orig. art. has: 3 tables, 1 figure and 10 equations.

ASSOCIATION: None

SUBMITTED: 09May63   ENCL: 00

SUB CODE: IC   NO REF SOV: 003   OTHER: 006

Card 2/2

DAVIDENKO, N.K.

Third constant of dissociation of tartaric acid determined by
the solubility method. Zhur. neorg. khim. 9 no.8:1781-1784
Ag '64.

(MIRA 17:11)

DAVIDENKO, N.K.

Stability of the complex compounds of rare earth elements
of the ceria group with malic acid. Zhur. neorg. khim. 9
no.7:1584-1587 Jl '64.   (MIRA 17:9)

L 61672-65   EWT(1)/EWT(m)/EWP(t)/EWP(b)   P1-4   IJP(c)   JD/JG

ACCESSION NR: AP5011115

UR/0051/65/018/004/0628/0630

535.37

AUTHOR: Voloshin, V. A.; Goryushko, A. G.; Davidenko, N. K.; Klimusheva, G. V.; Kul'chitskiy, V. A.

TITLE: Investigation of the luminescence spectrum of crystalline europium benzoyl-acetonate. I. Luminescence from two resonant levels

SOURCE: Optika i spektroskopiya, v. 18, no. 4, 1965, 628-630

TOPIC TAGS: europium compound, luminescence spectrum, luminescence center

ABSTRACT: The authors obtained and analyzed in detail the luminescence spectra of crystalline europium benzoylacetonate in the 500--700 mu band at 20K. The luminescence was photographed with a spectrograph (STE-1) of high resolution and more sensitive photographic material, which displayed hitherto unnoticed details in the spectrum. The luminescence spectra of two benzoylacetonate compounds, prepared by different methods, were identical, except for diffusion of some lines. The frequencies of the observed lines are tabulated and the various transitions responsible for the lines are identified. The number of lines in the spectrum is larger than

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L 61672-65

ACCESSION NR: AP5011115

expected when account is taken of the maximum splitting of the levels and of the overlap of transition from the two excited electronic levels $^5D_0$ and $^5D_1$ to the $^7F_{\text{n}}$ levels, and that almost each band of the spectrum is doublet. The doublet nature can be attributed to the presence of two luminescence centers, the details of which will be dealt with in the second part of the article. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 20Jul64   ENCL: 00   SUB CODE: OP, IC.

NR REF SOV: 004   OTHER: 002

Card 2/2

YATSIMIRSKIY, K.B.; DAVIDENKO, N.K.; KOSTROMINA, N.A.; TERNOVAYA, T.V.

Determination of the chemical structure of lanthanide coordination compounds based on their absorption spectra. Teoret. i eksper. khim. 1 no.1:100-105 Ja-F '65.   (MIRA 18:7)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev.

DAVIDENKO, N.K.; DERIBON, V.F.

Stability of cation complexes cf rare-earth elements with
tartaric and trihydroxyglutaric acids. Zhur.neorg.khim.
11 no.1:99-102 Ja '66.   (MIRA 19:1)

1. Submitted June 15, 1964.

DAVIDENKO, N.M.

OS'MAK, Illarion Terent'yevich; IRODOV, Aleksandr Vyacheslavovich;
STEPANENKO, A.N., inzh., retsenzent; DAVIDENKO, N.M., retsenznet;
SERDYUK, V.K., inzh., red.; RUDENSKIY, Ya.V., tekhn.red.

[Corn-harvesting machinery] Mashiny dlia uborki kukuruzy. Kiev,
Gos.nauchno-tekhn.izd-vo mashinostroit..lit-ry, 1957. 276 p.
        (Corn picker (Machine))   (MIRA 11:4)

10.6400

18.8100

31051
S/126/61/012/004/007/021
E193/E383

AUTHORS: Davidenkov, N.N., Likhachev, V.A. and Ivanov, V.G.

TITLE: The effect of the size factor on irreversible changes of shape due to thermal cycling

PERIODICAL: Fizika metallov i metallovedeniye, v. 12, no. 4, 1961, 541 - 549

TEXT: Metal components subjected to thermal cycling may irreversibly change their shape and/or dimensions. When these changes are caused by relaxation of internal stresses of the first type, i.e. those set up as a result of a temperature gradient in the component, their magnitude and sign should be affected by its dimension. Published data on the effect of this factor (Ref. 4 – authors – Nauchno-tekhnicheskiy informatsionnyy byulleten' (razdel fiziko-matematicheskikh nauk), Leningrad politekhn. in-t, 1958, no. 12, 56; Ref. 5 – G.P. Lazarev – Izv. AN SSSR, OTN, Metallurgiya i toplivo, no. 5, 1959, 57) are contradictory and since this problem is of both theoretical and practical importance, the investigation described in the present paper was undertaken. The experiments were conducted on

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S/126/61/012/004/007/021
The effect of the size factor ...   E193/E383

cylindrical specimens of aluminium (99.97%), α-brass (30% Zn) and β-brass (47% Zn) with a length/diameter ratio not less than 6. The thermal cycling consisted of holding a test piece in a nitrate bath for at least two minutes and transferring it in two seconds to cold water (10 ^{O}C). All the test pieces were annealed prior to thermal cycling. The dimensional changes were determined by measuring the variation of the distance between two reference lines inscribed circumferentially on the cylindrical wall, well away from the flat faces of the specimens. In the first series of experiments a pure sodium nitrate bath was used; owing to the high melting point of this salt, it formed a solid crust on the immersed test pieces, whereby the rate of heat transfer was slowed down and steep temperature gradients were avoided. The results are reproduced in Fig. 1, where the, so-called, "growth coefficient" (γ x 10^{-5}/cycle) of α-brass is plotted against the diameter (mm) of the test pieces, thermally cycled through a temperature interval of $\Delta T = 500$ ^{o}C.

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31051
S/126/61/012/004/007/021
The effect of the size factor E193/E383

the results obtained for β-brass being reproduced in a similar
manner in Fig. 2. The results for aluminium are reproduced in
Fig. 3, where $\gamma = 10^{-5}$/cycle is plotted against the specimen
diameter (mm), Curves 1-4 relating to specimens (1) heated
in pure sodium nitrate ($\Delta T = 300$ °C), (2) heated in pure
sodium nitrate ($\Delta T = 420$ °C), (3) heated in a nitrate eutectic
($\Delta T = 420$ °C) and (4) heated in a nitrate eutectic
($\Delta T = 490$ °C). The different behaviour of aluminium specimens
of the same diameter but tested under different conditions
(higher or lower heating and cooling grades) confirmed the
findings of Likhachev and Moskvin (Ref. 4) that aluminium
cylinders increased in length when slow heating was followed
by rapid cooling and contracted when heated rapidly and cooled
slowly. At high heating and cooling rates, the final result
will be a combined effect of expansion and contraction, as a
result of which minima and maxima can appear on the γ versus
test-piece diameter curves. Other material may be subject to
the same effect and to elucidate this point the present authors
analyse this problem in terms of, so-called, "criteria of
transition to plastic state". They conclude that when the
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3105A
S/126/61/012/004/007/021
The effect of the size factor E193/E383

relaxation time and/or the yield strength of a metal are
markedly affected by temperature variation, thermal cycling
should bring about a decrease in the largest dimension of a
specimen, irrespective of the relationship between the cooling
and heating rates; when these two properties vary little with
temperature, a metal specimen will increase its length after
slow heating and rapid colling and contract when rapidly heated
and then slowly cooled. The effect of shape on the phenomenon
studied was determined in the final series of experiments. To
this end aluminium specimens of equal cross-sectional area
(1.56 cm^2) but of a different shape and length were subjected
to thermal cycling through $\Delta T = 370\ ^{\circ}C$. The results are
reproduced in Fig. 7, where $\gamma \times 10^{-5}$/cycle is plotted against
the specific volume/surface (V/S) ratio, the various experimental
points relating to the following shapes: 1 - cylinder,
D = 14.1 mm; 2 - hexagonal, D = 13.5 mm; 3 - square,
a = 12.5 mm; 4 - rectangle, a = 8.0 mm and $\textit{б}$ = 19.5 mm;
5 - rectangle, a = 5.0 mm and $\textit{б}$ = 31.5 mm.
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The effect of the size factor ....

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S/126/61/012/004/007/021
E193/E383

In every case, the test piece increased in length and, contrary to the findings of A.A. Zuykova (Ref. 6 - Izv. AN SSSR, OTN, 1958, no. 10, 92), γ was practically independent of the number of thermal cycles. The increase was most pronounced in thin specimens of rectangular cross-section and least marked in cylindrical specimens.
There are 7 figures and 8 Soviet-bloc references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
                (Physicotechnical Institute of the AS USSR)
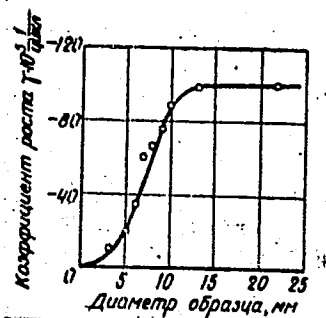
SUBMITTED: January 25, 1961

Fig. 1:

Fig. 2:

Card 5/8 5
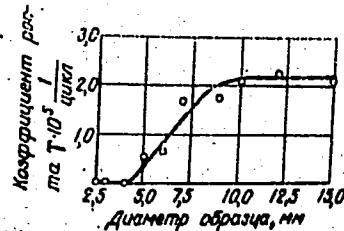
18 8200
94 7500   24934   S/181/61/00?/005/011/031
                                                     B102/3201

AUTHORS: Davidenko, N.N., Smirnov, B.I., and Yaroshevich, V.D.

TITLE: Problem of the temperature effect upon the yield point of
              metals with cubic body-centered lattice

PERIODICAL: Fizika tverdogo tela, v. 5, no. 6, 196 , 1 1

TEXT: The authors wanted to show that the strong rise of yield point in
cubic body-centered lattices on a drop of temperature cannot be brought
into relation with the appearance of "impurity clouds" (A.H. Cottrell, B.A.
Bilby, Proc. Phys. Soc. A62, 49, 1949). There is experimental and
theoretical proof that the relationship between shearing stress on the

yield plane and grain size 2d in metals with such lattices is given by
$\tau_s = \tau_0 + \tau_D 1^{1/2} a^{-1/2}$ or $\tau_s = \tau_0 + kd^{-1/2}$, $(k = \tau_D 1^{1/2})$; τ_D is, according to
Cottrell, the shearing stress required for liberating dislocations from
impurity clouds (particle nitrogen, and others). The first equation may
also be written in the form $\tau_s = \tau_0 - \tau_r (\tau_k + kd^{-1/2})$; for the simple expansion
Card 1/4

Problem of the temperatur- . . 243.4   S/181/61/003/0.6/0.1/051
                                                 B102/B201

(compression) if $\rho_s = \sigma_o + \sigma_k$. Here, σ_k describes the interaction of dis-
location and impurity flow. To determine the cause of a rise of the yield
point with dropping temperature, the authors of the present paper studied
the temperature dependence of σ and τ, on the basis of previously

published experimental results. The results of this analysis of experiment-
al data are collected in the table. It is thus found that σ_o, not σ_k is

responsible for the rise of the yield point, i.e., not the impurity-cloud
effect. In addition, on a rise of σ_k and with dropping temperature,

$d\sigma/dT \simeq$ const, i.e., the $\sigma_k(T)$ curve has nothing in common with the theo-

retical curves. There are even cases, where σ_k also drops with dropping

temperature. L.I. Vasil'yev and L.M. Shestopalov are thanked for their
discussions. There are 5 figures, 1 table, and 20 references: 1 Soviet-bloc
and 19 non-Soviet-bloc. The most important references to English-language
publications read as follows: G. Schoeck, A. Seeger. Acta. Met. 7, 469,
1959. H. Conrad. Phil. Mag. 5, 745, 1960; D.E. Stein, J.R. Low. J. Appl.
Phys. 21, 632, 1960.

Card 2/4

24914   S/181/61/003/006/011/031

Problem of the temperature ...   B102/B201   .   :

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR Leningrad
               (Institute of Physics and Technology imeni A.F. Ioffe AS USSR,
               Leningrad   . -

SUBMITTED: December 23, 1960

Card 3/4

DAVIDENKOV, N.N.; LIKHACHEV, V.A.; MALYGIN, G.A.; CHEN TSIN-GUY
[Ch'ên Ch'ing-kuei]

Irreversible thermal shape changes in cadmium-zinc alloys. Issl.
po zharopr. splav. 9:126-133 '62.   (MIRA 16:6)
                    (Cadmium-zinc alloys--Testing)
                    (Metals, Effect of temperature on)

ANDREYEV, G.Ya., kand.tekhn.nauk; DAVIDENKO, N.P., inzh.; MALITSKIY,
I.F., inzh.; OSTRENKO, B.S., inzh.; SHAT'KO, I.I., inzh.

Using induction heating in setting and dismantling wheel pairs.
Mashinostroenie no.6:67-71 N-D '62.   (MIRA 16:2)

1. Khar'kovskiy gornyy institut.
          (Induction heating)   (Car wheels)

ANDREYEV, G.Ya., kand. tekhn. nauk; MALITSKIY, I.F., inzh.;
    DAVIDENKO, N.P., inzh.

Equipment for disjoining fits having a guaranteed tightness.
Mashinostroenie no.1:14-15 Ja-F '63.   (MIRA 16:7)

1. Khar'kovskiy gornyy institut.
                (Machine-shop practice)

DAVIDENKO O.P.

KUGUKALO, I.A.[Kuhukalo, I.A.], kand. ekon. nauk; KORETSKIY, L.M.
[Korets'kyi, L.M.]; LIPSKIY, V.M.[Lips'kyi, V.M.];
KOSTENKO, N.K.; SHKURATOV, O.I.; LINCHEVSKAYA, V.O.
[Linchevs'ka, V.O.]; DAVIDENKO, O.P.[Davydenko, O.P.];
VOLOBOY, P.V.; PUCHKO, Yu.S.; KONSEVICH, A.I.[Konsevych,
A.I.]; KOPACHINSKAYA, N.I.[Kopachyns'ka, N.I.]; LANDYSH,
B.O., red.; DAKHNO, Yu.B., tekhn. red.

[Trends in the specialization and comprehensive develop-
ment of the Kiev Administrative Economic Region]Napriamy
spetsializatsii i kompleksnoho rozvytku Kyivs'koho ekono-
michnoho administratyvnoho raionu. Kyiv, Vyd-vo Akad.
nauk URSR, 1962. 308 p.   (MIRA 16:3)

1. Akademiya nauk URSR, Kiev. Instytut ekonomiky.
    (Kiev Economic Region—Industries)

DAVIDENKO, O.P. [Davydenko, O.P.]

Territorial distribution of the production of local wall
materials. Geog. zbir. no.5:173-179 '62.   (MIRA 1°:12)

DAVIDENKO, P.A.; BARANOV, K.G.; SHVARTS, Ye.Ya.

Finishing parts with heated nitro lacquer. Der. prom. 6 no.5:17-19
My '57.   (MIRA 10:6)

1. Moskovskiy derevoobrabatyvayushchiy zavod Glavchasproma Minister-
stva priborostroyeniya i sredstv avtomatizatsii SSSR.
            (Woodworking industries)   (Lacquers and lacquering)

DAVIDENKO, P.A.

DAVIDENKO, P.A.; SHVARTS, Ye.Ya.; BARANOV, K.G.

Decorative elements from sawdust. Der.prom. 6 no.8:22-23 Ag '57.
(MIRA 10:11)

1. Derevoobrabatyvayushchiy zavod Glavchasproma.
(Wood, Compressed)   (Clocks and watches)

Davidenko, P.A.
DAVIDENKO, P.A.; SHVARTS, Ye.Ya.

Finishing of wood objects used in tropical conditions. Der. prom. 7
no.2:19-20 F '58.   (MIRA 11:1)

(Wood finishing)   (Tropics)

DAVIDENKO, P.A.; SHVARTS, Ye.Ya.

Automatic temperature control in unit for centralized varnish
feed. Der. prom. 8 no.5:20 My '59.

(Varnish and varnishing)

(MIRA 12:7)

DAVIDENKO, R.A.; VOLOBAYEV, M.A.; KUCHENKOV, V.M.

Automatic control of the wood drying process. Der. prom. 8
no.8:17-18 Ag '59.
            (Woodworking machinery) (Wood--Drying)   (MIRA 12:12)

DAVIDENKO, P.A.; SHVARTS, Ye.Ya.

Milling machines with hard alloy blades made from powder metal
blanks. Der. prom. 8 no.11:25-26 N '59.   (MIRA 13:3)
(Woodworking machinery)

DAVIDENKO, P.A., inzh.

      Briquetting of wood waste. Der.prom. 9 no.5:20-21
      My '60.   (MIRA 13:7)

    1. Moskovskiy mebel'no-derevoobrabatyvayushchiy kombinat.
       (Briquets(Fuel)) (Wood waste)

DAVIDENKO, P.A.

Use of a conveyer in veneering operations. Der.prom. 9 no.8:19
Ag '60.   (MIRA 13:8)
        (Veneer and veneering)   (Assembly-line systems)

DAVIDENKO, P.A.

Experience in the manufacture of furniture components from
compressed wood particles. Der.prom. 10 no.2:22-23 F '61.
(MIRA 14:3)

.1. Moskovskiy mebel'no-derevoobrabatyvayushchiy kombinat.
(Furniture)   (Wood, Compressed)

DAVIDENKO, P.A.

Using multiple-position press molds for pressing articles made of wood particles. Der.prom. 11 no.1:19-21 Ja '62.   (MIRA 15:1)

1. Moskovskiy mebel'no-derevoobrabatyvayushchiy kombinat.
(Wood, Compressed)

DAVIDENKO, Pavel Aleksandrovich; LUK'YANOV, N.G., red.; SEDOVA, Z.D.,
        red. izd-va; BACHURINA, A.M., tekhn. red.

[Electrical section of a wood drying automatic control system]
Elektronnaia skhema avtomaticheskogo kontrolia sushki drevesiny.
Moskva, Goslesbumizdat, 1962.   53 p.   (MIRA 16:2)
        (Wood—Drying)   (Automatic control)

DAVIDENKO, P.A.

Introduced on the initiative of the members of the Scientific and Technical Division. Der. prom. 12 no.4:30-31 Ap '63.

(MIRA 16:10)

1. Predsedatel' Moskovskogo oblastnogo pravleniya Nauchno-tekhnicheskogo obshchestva bumazhnoy i derevoobrabatyvayushchey promyshlennosti.

DAVIDENKO, P.A.

Experiments in introducing polyester enamels for furniture finishing.
Der. prom. 12 no.9:19 S '63.   (MIRA 16:10)

DAVIDENKO, I. .

 materials in the manufacture of furniture. Der. prom.
IA no.6:4-5 Je '65.   (MIRA 18:7)

TKACHENKO, N.S.; DAVIDENKO, P.I.; DOBRZHANSKIY, A.V.

Determination of metallic iron in the presence of oxidizing agents and free calcium oxide. Zav.lab. 29 no.5:536-538 '63. (MIRA 16:5)

1. Gikyuzhruda.
                    (Iron—Analysis)   (Oxidizing agents)

DAVIDENKO, S.A.; VAYS, A.L.; NIKOLENKO, V.F.; KALASHNIKOV, I.F.;
KOROLEV, V.K.; SHILOVTSEVA, L.M., redaktor; MAL'KOVA, N.V.,
tekhnicheskiy redaktor.

[Assembly-line secondary servicing of automobiles] Vtoroe
tekhnicheskoe obsluzhivanie avtomobilia na potoke. Moskva,
nauchno-tekhn.izd-vo avtotransp. lit-ry, 1954. 31 p.(MLRA 8:11)
       (Automobiles--Repairing)

DAVIDENKO, V.

Work of a technical education center. Politekh.obuch. no.10:85-86
O '58.   (MIRA 11:11)

1. Krasnodarskiy krayevoy institut usovershenstvovaniya uchiteley.
   (Krasnodar Territory--Technical education)

KOLESOV, A.P., prof.; ZHELUDEV, S.I.; DAVIDENKO, V.A.

Mediastinal and mediastinal-pulmonary form of sarcoidosis in the surgical clinic. Khirurgiia 40 no.1:11-16   Ja '64.

(MIRA 17:11)

1. Khirurgicheskaya klinika dlya usovershenstvovaniya vrachey No.1 Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.

L 22043-66

ACC NR: AP6009025 (A,N)   SOURCE CODE: UR/0401/65/000/011/0020/0023

AUTHOR: Davidenko, V. (Lieutenant general, Hero of Soviet Union) //

ORG: None

TITLE: Battle is carried out by Far-Eastern warriors

SOURCE: Starshina-serzhant, no. 11, 1965, 20-23

TOPIC TAGS: military training, tactical warfare

ABSTRACT: An article written in an easy, informal conversational
style is presented on the subject of organization of maneuvers and
tactical training on the basis of wide utilization of arms and acquired
experience. In this connection, a tactical training operation in a
Far-Eastern area, attended by the author, was praised because the ways
in which the training was carried out approached real combat conditions.
Incidental narratives related several episodes which occurred in the
course of training and were presented as descriptive examples. The
movements and actions of a motorized riffle unit overcome in a forest
by a nuclear attack were described including fire fighting, medical aid,
evacuation of wounded and other simulated countermeasures. Another
example dealt with the simulation of an amphibious operation in which

Card 1/2

L 22043-66

ACC NR: AP6009025

naval ships, marine units, armored tanks, sappers and miners partici-
pated. Successful parachuting from transport aircraft and the victor-
ious actions of a parachute unit against a riffle unit were described
and praised. The organization of a defensive coastal area by a motor-
ized riffle unit, and the combat actions against an amphibious task
force were analyzed. The defending riffle unit was pronounced the
victor in this combat competition. However, some of its actions and
assumed heavy losses were criticised by the author on the basis of his
estimate of the situation. Orig. art. has: 5 photos.

SUB CODE:05,15 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2

DAVIDENKO, V. A.

"Complex Study of the Mechanism of Electrical Conductivity of Semiconductors," Ia.
Ak. Nauk SSSR, Ser. Fiz., No.5, pp 546-47, 1941

DAVIDENKO, V. A. and SHMUSHKEVICH, I.

    "Measuring of Galvano-Magnetic Effects in Dielectrics," Zhur. Eksper. i
Teor. Fiz., 11, No.5, pp 486-88, 1941

Leningrad Phys-Tech. Inst., AS USSR

AUTHOR   DAVIDENKO, V.A., KUCHER, A.M.,   PA - 2720
TITLE   The Determination of the Intensity of the Neutron Sources from the
            Activity Caused by Neutrons in a Solution of Manganic Acid Potassium.
            (Opredeleniye intensivnosti neytronnykh istochnikov po aktivnosti,
            navodimoy neytronami v rastvore margantsevokislogo kaliya - Russian)

PERIODICAL Atomaaia Energiia, 1957, Vol 2, Nr 4, pp 334-336, (U.S.S.R.)
                                                    Reviewed 6/1957
            Received 5/1957

ABSTRACT   Among the methods for the calibration of neutron sources, the most sim-
            ple is the method of the physical integration of neutrons in a large
            container with a solution containing hydrogen and any indicator for ther-
            mal neutrons. A 2% aqueous solution of manganic acid potassium is best
            used. If the oH value of the solution is kept within the limits of from
            0 to 4, the main part of the active Mn^{56} is segregated in form of man-
            ganese-dioxide and only a small part of the manganese remains in the
            solution, apparently in the form MnO_4. The manganese dioxide is separated
            from the remaining solution in the used way my means of filtering paper.
            The neutrons emitted by the source are slowed down by the source and
            are absorbed mainly by hydrogen and manganese. Calibration measurements
            of the neutron sources Nr 22 and Nr26, which contain a homogeneous mix-
            ture of radium bromide and beryllium powder, were carried out in an
            aluminum container having a diameter of 66cm and a height of 7cm.
            The $KMnO_4$ solution had a concentration of 2,12 $\pm$ 0,01 % and a volume
            of 233 $\pm$ 1 l.After each irradiation the solution was mixed thoroughly
            and carefully and 3 samples of 1 liter each were taken. Each silution

Card 1/2

AUTHOR   DAVIDENKO, V.A., POGREBOV, A.I., SAUKOV, A.I.,   PA - 2729

TITLE   The Determination of the Shape pf the Excitative Curve of the Reaction T(d,n)He⁴.
(Opredeleniye formy krivoy vozbuzhdeniya reaktsii T(d,n)He⁴ - Russian)

PERIODICAL   Atomnaia Energiia, 1957, Vol 2, Nr 4, pp 386-388 , (U.S.S.R.)
Received 5/1957   Reviewed 6/1957

ABSTRACT   In the investigations described in the paper under review, the deuterium ions were accelerated by means of an acceleration tube with magnetic analyzer. The measurements were carried out in thick and thin zirconium-tritium targets atdeuteron energies of 40 to 225 keV. The thick targets were made of zirconium foils of a thickness of 0.02 to 0.05 mm. The zirconium foil used for making thintargets contained radioactive zirconium (Zr^{95}). The targets were vaporized in vacuum upon a zirconium foundation. The targets were saturated with tritium in a vacuum chamber with a tritium pressure of 20 to 30 mm of mercury. The presentpaper contains a short description of how this saturation was carried out. The measurements were carried out with two targets of a thickness of 0.01 + 0.003 micron and 0.012 ± 0.003 micron respectively. The neutron current produced at the reaction T(d,n)He⁴ was measured by means of threshold-value indicators of copper.The β-activity of the indicator was measured with the aid of thin aluminum counters . The curve of output N = f(E) has a point of inflection, after which the gradient of the curve rapidly decreases. Therefore the differentiation may lead to considerable errors. For this reason, the data which were obtained with

Card 1/2

DAVIDENKO, V.A.; BUCHIR, A.M.; POGREBOV, I.S.; TUTUROV, Yu.F.

Determination of the total cross section of the $D(d,n)He^3$ reaction
in the 20-220 Kev energy range. Atom. energ. suppl. no.5:7-14 '57.
(Nuclear reactions)   (MIRA 11:2)

S/089/63/014/001/010/013
B102/B186

AUTHOR: Davidenko, V. A.

TITLE: The age of the nucleus and the duration of the nuclear
               synthesis

PERIODICAL: Atomnaya energiya, v. 14, no. 1, 1963, 100-104

TEXT: An account is given of a discussion with I. V. Kurchatov in 1947
about the possibility of determining the age of the nucleus. Determining
the age of the elements from the distribution of the isotopes in the
earth's crust and in meteors is meaningful only under the assumption that
the formation of the elements was completed at about the same time, from
which period onward the age could be measured. This method, however, gives
with certainty only the age of naturally radioactive elements. A.
possibility of estimating the age of the nucleus exists in a study of the
intrinsic laws of the table of isotopes, under the assumption that the
present distribution of the isotopes corresponds to the initial distribu-
tion that prevailed at the end of the period during which the elements were
synthesized, and assuming that this period of synthesis was negligibly

Card 1/3

The age of the nucleus and ...   S/089/63/014/001/010/013
B102/B186

small as compared with the lifetime of the radioactive nuclei. The distinguished and comparable position of the active odd-odd nuclei K^{40} and Lu^{176} makes them predestined for a determination of the age. It can be assumed that at the end of the period of synthesis of the elements the abundance ratios K^{40}/K^{39} and Lu^{176}/Lu^{175} were equal. From this the age of K can be determined to be $10.2 \cdot 10^9$ years. For a determination of the period of the fast neutron synthesis the initial abundance ratio U^{235}/U^{238} appears very suitable. The value 1.64 found for this by Burbidge et al (Revs.Mod.Phys.,29,547,1957) lies at about the middle of the abundance ratios of neighboring isotopes: $Yb^{173}/Yb^{176} = 1.28$, $Hg^{201}/Hg^{204} = 1.93$. The age of uranium calculated from this has the value $6.6 \cdot 10^9$ years. If the dependence of the relative distribution of the odd-even isotopes on Z is considered it is found that the heavy and light isotopes lie on separate straight lines which intersect. The position which deviates from this, for example that of Rb^{87}, is attributed to the excessively large half-life time of $4 \cdot 10^{10}$ years; its age is calculated to

Card 2/3

The age of the nucleus and ...

S/089/63/014/001/010/013
B102/B186

be $1.7 \cdot 10^{10}$ years. The very large deviation of In^{113} is explained as due to its being masked by Cd^{113}. The deviations of Br^{79} and Ag^{107} are also explained as due to their being masked by excess neutron isobars. If this should be also true for other elements, one has the possibility of estimating the duration of slow neutron synthesis. For Br^{79} it is found that $10^3 < \tau \leqslant 10^5$. There are 1 figure and 1 table.

SUBMITTED: November 12, 1962

Card 3/3

DAVIDENKO, V. A.

On the age of nuclei and the duration of nuclear fusion. Atom energ. 14 no.1:100-104 Ja '63.   (MIRA 16:1)

(Nuclei, Atomic)   (Nuchear fusion)

TOLUBAKOV, V....; DAVIDENKO, V.A.; KROL, Ya.M.; RONK, G.M.

Roentgenological evidences of the inoperability of pulmonary
cancer. Vop. onk. 11 no.7:9-17 '65.   (MIRA 18:9)

1. Iz khirurgicheskoy kliniki dyla usovershenstvovaniya vrachey
No.1 Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.
Kirova (nachal'nik - prof. A.P. Kolesov).

L +4177-66   EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/ETI/EWP(k)/EWP(l)   IJP(c)

ACC NR: AP6011253 (N) SOURCE CODE: UR/0413/66/000/006/0094/0094   6 3

JD/HM   B

INVENTOR: Davidenko, V. F.; Kochetov, A. A.; Lashkevich, R. I.;
Ponomarev, A. A.; Taran, Yu. M.

ORG: none

TITLE: Device for automatic ultrasonic quality control of welds. Class 42,
No. 179979 [announced by the Electric Welding Institute im. Ye. O. Paton
(Institut elektrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 94

TOPIC TAGS: ultrasonic quality control, welding, ultrasonic inspection, ultrasonic
equipment, servosystem, quality control

ABSTRACT: This Author Certificate introduces a device for ultrasonic inspection
of welds containing an ultrasonic probe and a color marker. For greater productivity,
the device is equipped with an optical servosystem which uses as a reference line
the surface of a cylindrical amplifier with photometric properties different from

Card 1/2   UDC: 620.179.16.05

L. 44177-66

ACC NR: AP6011253   0
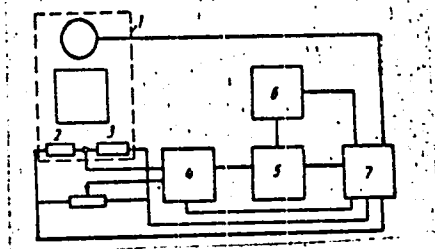
those of the material welded (see Fig. 1). Orig. art. has: 1 figure.

[LD]

Fig. 1. Device for automatic
         ultrasonic inspection of welds.
         1— sensor; 2 and 3—photo-
         resistance; 4 and 5— ampli-
         fiers; 6—servomotor;
         7—power source

SUB CODE: 13,20/ SUBM DATE: 13Jan64/

Card 2/2

VINOGRADSKIY, V.F.; DAVIDENKO, V.K.; TRUSOV, V.A.

New styles of furniture hardware. Der.prom. 9 no.5:
18-19 My '60.   (MIRA 13:7)

1. Moskovskiy mebel'no-sborochnyy kombinat No.1.
              (Furniture industry)
                 (Hardware)

L 10900-67   EWT(d)/EWT(l)/EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(l)   IJP(c)   JG

ACC NR: AR6034635   SOURCE CODE: UR/0372/66/000/007/G021/G021

39
37

AUTHOR: Davidenko, V. N.

TITLE: Analysis of the relation of the reliability of automatic elements with external effects

SOURCE: Ref. zh. Kibernetika, Abs. 7G129

REF SOURCE: Pribory i ustroystva sredstv avtomatiki i telemekhan. Resp. mezhved. nauchno-tekhn. sb., vyp. 1, 1965, 137-140

TOPIC TAGS: computer, mathematic analysis, vibration effect

ABSTRACT: During operation of automatic elements, external effects changing arbitrarily in time cause temporary changes in the intensity of $\Lambda(t)$ breakdowns. When the change is intensive enough and testing of elements is limited, it is convenient to consider $\Lambda(t)$ as a random function of time. Then $\Lambda(t) = L_\Lambda(t) \cdot E(t)$, where $E(t)$ is the external effect, described by a stationary occasional function of time; $L_\Lambda(t)$ is an operator setting a certain area of values of external effects into correspondence with a certain area of values of intensities of breakdowns. This equation is valid for external effects described by stationary as well

Card 1/2   UDC: 62-50:519.3

L 10900-6?

ACC NR: AR6034635

as nonstationary functions of time. Three types of problems allowing determination of the nature of the equations are indicated. A mathematical apparatus of statistical dynamics of linear and nonlinear systems of automatic control can be used to solve the equation relative to $L_A(t)$. $L_A(t)$ in the function of imaginary and substantial arguments is determined under the assumption that $\xi(t)$ is a stationary random function and is presented as a realization in the form of a certain curve for which mathematical expectancy, dispersion, and correlation function are calculated. $A(t)$ is likewise supposed to be a stationary random function, congruent in time with $\xi(t)$. The use of the method presented is planned primarily for self-restoring breakdowns, for instance for analysis of the connection of self-actuating electromagnetic relay elements with arbitrary external vibrational shock effects. The use of computers is considered indispensable for these calculations. Bibliography has 5 references. [Translation of abstract]

SUB CODE: 09, 12/

Card 2/2 bro

DAVIDENKO, V.V.; LEBEDEV, V.A.; ARTEMOV, I.Ye.; SAVCHENKO, V.P.

Improving the characteristics of blast furnace turboblowers by
means of changes in diffusers. Prom. energ. 12 no.4:18-19 Ap '57.
(Blast furnaces)   (MIRA 10:5)

DAVIDENKO, YU. K.

BUYANOV, Yu.D., inzh.; GAZYZOV, M.S., inzh.; DAVIDENKO, Yu.K., inzh.;
DIONIS'YEV, A.I., inzh.; DEMIN, A.M., inzh.; KARPINSKIY, N.Ye.,
inzh.; RAZMYSLOV, Yu.S., kand.tekhn.nauk; SKRIPKA, L.V., kand.
tekhn.nauk; TULOVSKIY, M.V., inzh.; YAMSHCHIKOV, S.M., inzh.;
OKHRIMENKO, V.A., red.izd-va; BERLOV, A.P., tekhn.red.

[Problems in open-cut mining of coal] Voprosy otkrytoi razrabotki
ugol'nykh mestorozhdenii. Pod obshchei red. IU.S.Razmyslova.
Moskva, Ugletekhizdat, 1957. 338 p.   (MIRA 11:4)
        (Strip mining)   (Coal mines and mining)

MEL'NIKOV, N.V.; VINITSKIY, K.Ye., kand.tekhn.nauk; POTAPOV, M.G.,
    kand.tekhn.nauk; USKOV, A.A., red.; POKROVSKIY, M.A., red.;
    RZHEVSKIY, V.V., red.; SOKOLOVSKIY, M.M., red.; DAVIDENKO,
    Yu.K., red.; YASTREBOV, A.I., red.; KAUFMAN, A.M., red.izd-va;
    LOMILINA, L.N., tekhn.red.

[Prospects for the use of rotating excavators in U.S.S.R.
open-pit mines] Perspektivy primeneniia rotornykh ekskavatorov
na otkrytykh razrabotkakh SSSR. Pod red. N.V.Mel'nikova.
Moskva, Ugletekhizdat, 1959. 175 p.   (MIRA 12:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy nauchno-tekhni-
cheskiy komitet.
    (Excavating machinery)   (Strip mining)

DAVIDENKO, Yu.N. [Davydenko, IU.N.]

Case of endometriosis in the inguinal area in combination with an
inflammatory process. Ped., akush. i gin. 23 no.3:62-64 '61.

(MIRA 15:4)

1. Smilyans'ka mis'ka likarnya im. Semashko (golovriy likar - A.S.
Polezhayeva [Polezhaieva, A.S]. Nauchnyy rukovoditel' - prof. M.K.Dal').

(ENDOMETRIOSIS)

SAFRANOVICH, V.M. [Safranovych, V.M.]; DAVIDENKO, Yu.O. [Davydenko, IU.O.]

Redesigning of the automatic NOR-18 single-process knitting machine for fancy hosiery. Leh.prom. no. 4:78-79 O-D '63.
(MIRA 17:5)

ILYENKO, V.I.; MIRZOYEVA, N.; DANIYAROV, O.; AMINOVA, M.G.; DAVIDENKO, Z.B.;
SMORODINTSEV, A.A.

Experiences with serological research on transmissible infections
in the southern republics of the U.S.S.R. J. hyg. epidem. (Praha)
8 no.2:229-236 '64.

1. Institute of Experimental Medicine, Academy of Medical Sciences
of the U.S.S.R., Virology Department; Institute of Epidemiology,
Microbiology and Hygiene, Baku; Institute of Epidemiology and
Microbiology, Frunze; Institute of Epidemiology and Microbiology,
Dushambe.

DAVIDENKO— SUVOROVA R. V.
DAVYDENKO-SUVOROVA, R. V.

"Surgical Assistance for Children in Moscow Prior to the Great October Socialist Revolution." Cand Med Sci, Second Moscow State Medical Inst imeni I. V. Stalin, Moscow, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

DAVIDENKOV L. R.   Nov. 5.

USSR/Chemistry - Dyestuffs
                Benzothiazole Derivatives

"Research in the Field of Benzothiazole Derivatives. Preparation of 1-Benzothiazolyl-3-
Methyl-5-Pyrazolone,"L. S. Efros, L. R. Davidenkov, Lab of Technol of Org Dyestuffs,
Leningrad Technol Inst

"Zhur Obshch Khim" Vol XXI, No 11, pp 2046-2050   / 951 ,

Verifying patent data, oxidized 2-mercaptoben-zothiazole in alk soln to form 2-benzothia-
zolylsulfonic acid, whos HSO_3 group is easily replaced by OH, NH_2, NHOH, and $NH-NH_2$ groups.
Condensation of 2-benzothiazolyl-hydrazine with ester or amide of acetoacetic acid yielded
1-benzothiazoly-3-methyl-5pyrazolone (I). Yield approched theoretical in condersation with
amide. Introduced NO and N=N-R groups into I.

PA 194T52